

ME 423: FLUIDS ENGINEERING

Dr. A.B.M. Toufique Hasan

Professor

Department of Mechanical Engineering,
Bangladesh University of Engineering and Technology (BUET), Dhaka

Lecture-16 (04/11/2024)

Hydraulics of Pipeline Systems

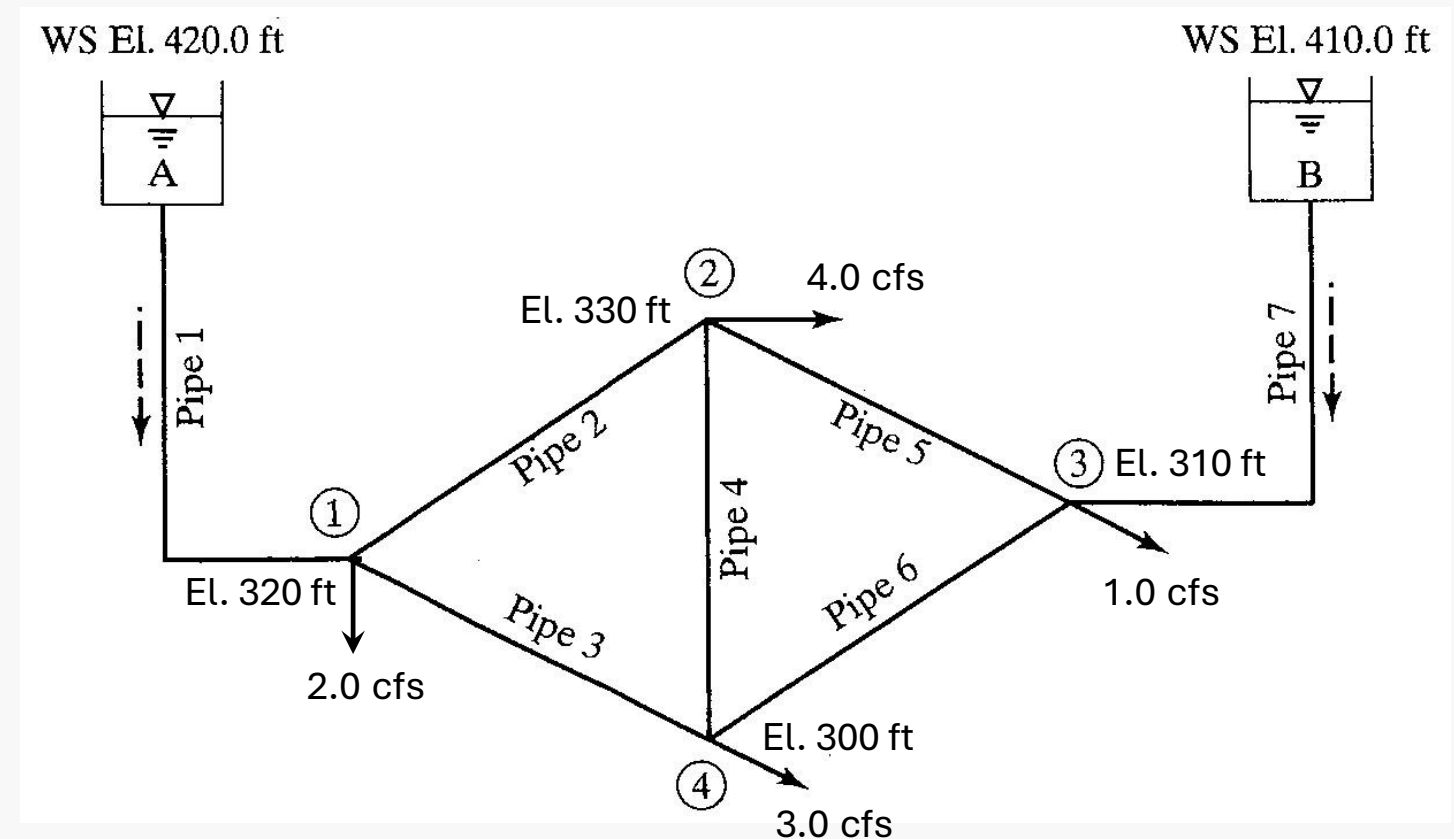
toufiquehasan.buet.ac.bd
toufiquehasan@me.buet.ac.bd

Piping Network Analysis (Hardy Cross Method)



Determine the flow rate in each line and the pressure at each junction node for the pipe network.

Line	Nodes	Length ft	Diameter in.	f
1	A-1	1,000	12	0.015
2	1-2	800	8	0.019
3	1-4	700	8	0.019
4	4-2	750	6	0.020
5	3-2	600	8	0.019
6	3-4	800	8	0.019
7	B-3	900	10	0.017



Solution:

2 nos. close loops and 1 nos. pseudo-loop (connecting two reservoirs)

need to be considered.

Employ Hardy Cross method.

See your class note.